REMARKS

Applicant appreciates the consideration shown by the Office, as evidenced by the Office Action, mailed on November 14, 2003. In that Office Action, the Examiner rejected Claims 1-14.

The November 14 Office Action has been carefully considered. After such consideration, Claims 1, 4, 7 and 11, paragraphs 0016 and 0017 on Page 5 and Page 6 of the specification, and Figure 2 have been amended. Claims 3 and 10 are canceled, and Claims 15 and 16 are new. Applicant respectfully requests reconsideration of the application by the Examiner in light of the above amendments and the following remarks offered in response to the November 14 Office Action.

Objections to the Drawings

The Examiner has objected to the drawings as failing to comply with 37 CFR 1.84(p)(4) with a statement that reference character "130" has been used to designate both the top channel and the bottom channel. The Examiner also states that reference signs "90" and "185" are not mentioned in the description. The Examiner further states that reference character "140" has been used to designate both the bottom channel and the concavities. The Examiner also states that the drawings fail to show the "concavities 260" as described in the specification and, in particular, has noted that paragraphs 0016 and 0017 make reference to the concavities 260 by directing attention to Figure 1. The Examiner has required a drawing correction, corrected drawings, or amendment to the specification.

With respect to the comment regarding reference character 130, Applicants traverse the statement that 130 is being used to designate both the top channel and the bottom channel. As can be seen in FIG. 1, reference character 130 is referring to a channel present on a different elevational section (a higher one) of the structure than the channel represented by reference character 140.

With respect to the comment regarding characters 90 and 185, in the proposed drawing correction, reference characters 90 and 185 are removed.

With respect to the comment regarding the concavities, Applicant further submits that paragraphs 0016 and 0017 in the specification have been amended to correct minor typographical error and to designate concavities using reference character "260".

Applicant therefore submits that, by so amending Figure 2, and paragraphs 0016 and 0017 of the specification, the objection to the Drawings is successfully overcome.

Rejections under 35 U.S.C. §102 (e)

Claims 1-14 have been rejected under 35 U.S.C. §102 (e) as being anticipated by Margiott et al. (U. S. Patent Application 2002/0086200).

Applicant submits that independent Claims 1 and 7 have been amended to recite the limitation that a plurality of concavities are disposed on a surface portion of said top channel and disposed on a surface portion of said bottom channel so as to cause hydrodynamic interactions and affect the heat transfer rate between said fluid and said concavities when said fluid is disposed over said concavities. Support for this amendment is found in paragraph 0018 of the specification.

Applicant further submits that new claims 15 and 16 have been added to recite the limitation that the shape of the concavities is selected from the group comprising hemispherical, inverted, truncated conical shapes and combinations thereof. Support for the new claims is found in paragraph 0016 of the specification.

Applicant respectfully submits that, in order to anticipate under §102, a reference must teach every aspect of the claimed invention. Accordingly, Applicant submits that Margiott et al. do not teach all of the limitations of amended Claims 1 and 7.

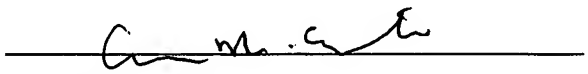
Applicant submits that Margiott et al. do not teach a plurality of concavities disposed on a surface portion of the top channel and disposed on a surface portion of the bottom channel so as to cause hydrodynamic interactions and affect the heat transfer rate between the fluid and the concavities when the fluid is disposed over the concavities. The reference instead teaches ribs that define parallel flow-through flow field channels and a serpentine rib that defines inlet channels and outlet channels in Margiott et al. paragraph [0013]. The reference is silent on the teaching of "concavities", rather the

reference teaches "ribs" that are understood by those skilled in the art to differ from concavities. According to the MSN Encarta Dictionary, "concavity" is generally understood to refer to a concave part or surface that arises from the state of being concave. On the other hand, "rib" is generally understood to mean a bar, rod, or other supporting part having a larger length dimension as compared to it thickness. Applicant respectfully states that the "ribs" taught in Margiott et al., are primarily planar or non-curved structures. On the other hand, the "concavities" taught by the present invention have a curvature comprising any sector of a full hemisphere, by virtue of which, greater hydrodynamic interactions and a greater heat transfer rate result. Hence, a more efficient means of heat transfer is achieved from using "concavities".

Applicant therefore submits that, because the reference does not teach every aspect of the claimed invention, the rejection of independent Claims 1 and 7 and all the claims dependent thereon under 35 U.S.C. §102(e) as being anticipated by Margiott et al. is successfully overcome. Each of the remaining claims depends from one of claims 1 and 7 with claims 2, 4-6 and 15 depending from claim 1 and Claims 8-9, 11-15, and 16 depending from claim 7.

In light of the amendment and remarks presented herein, Applicant submits that remaining claims 1-2, 4-9, and 11-16 are in condition for immediate allowance and respectfully requests such action. If, however, any issues remain unresolved, the Examiner is invited to telephone the Applicant's counsel at the number provided below.

Respectfully submitted,



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